PATENT ABSTRACTS OF JAPAN

(11)Publication number : **2003-140719**

(43)Date of publication of application : **16.05.2003**

(51)Int.Cl. G05B 19/418
G06F 17/60

(21)Application number : **2001-331195**

(22)Date of filing : **29.10.2001**

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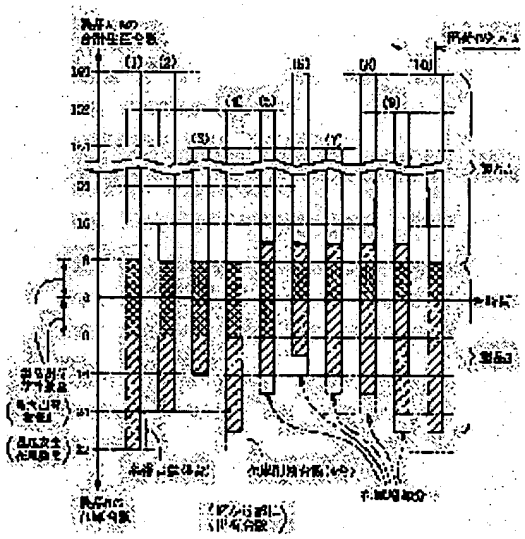
(54) PRODUCTION PLANNING METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a production planning method capable of facilitating measures to a shipping request without any delay, and minimizing stock quantity and an inventory space.

SOLUTION: In this production method for a mixed flow production line for continuously producing first products A to be mass produced and second products B to be produced in a low volume in a mixed flow state for periodically shipping the prescribed quantity of products, the assignment of the production quantity per unit time of the first and second products A and B is instructed based on the product shipping statistics of the first and second products A and B each time in the past relatively long period, and the stock quantity (n) of the second products B to be produced in the small volume is set so as to be not less than the maximum quantity N of the second products B occupying in one time shipping quantity of the product shipping statistics, and so as to be less than (N+α) (α is a conventional excess quantity). At the time of shipping the second products from the inventory, the assignment of the production quantity is shifted to the second product B side corresponding to the shipping quantity.



LEGAL STATUS

[Date of request for examination] 13.09.2004

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]
[Claim 1] As opposed to the abouchement production line which produces these continuously in the state of the abouchement in order to ship periodically the 1st product of mass-produced-goods slack, and the 2nd product of low production article slack in the amount of predetermined numbers While directing allocation of the production quantity per unit time amount of said 1st and 2nd products based on product shipment statistics of the 1st past product at each time comparatively over a long period of time and the 2nd past product In the production-planning approach which held the quantity (N+alpha) which added allowances quantity (alpha) to the amount of maximum numbers of said 2nd product occupied in 1 time of said product shipment statistics of shipment quantity (N) as minimum safety-stock quantity of the 2nd product the stock quantity (n) of said 2nd product -- N<=n -- < (N+alpha) -- the production-planning approach characterized by shifting allocation of said production quantity to a 2nd product side corresponding to a part for the shipment quantity concerned when said 2nd product is shipped from an inventory, while reducing in the range.
[Claim 2] The production-planning approach according to claim 1 characterized by producing a part for the shipment quantity of said 2nd product within the interval period of shipment.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to the production-planning approach applied to the production system of a low production article.
[Description of the Prior Art] Conventionally, it is the unit in which the monthly output ratio of low production article [5% or less of] B settled the product A of the mass-produced-goods slack 1st on the production line to some extent as shown in drawing 2 (I), for example, one set is inserted at a time in 18 sets, 20 sets, 17 sets, and the interval passed continuously. Such a low production article B needed much stock quantity and many inventory tooth spaces considering the number of production, in order to avoid the situation which cannot be shipped, since it is shipped by the lot unit (they are eight sets for example, with one lot) when shipped while prediction is impossible in whether it is surely shipped at every periodical shipment.
[0002] Moreover, if stock quantity tends to be reduced as much as possible and it is going to cope with it by the view of back supplement production, it will become, because what was shipped once as a result is only equalized, and the situation which runs short of inventories by shipment of the following lot unit will also be considered.
[0003]
[Problem(s) to be Solved by the Invention] The object of this invention is to offer the production-planning approach as for which can respond to a shipment demand without delay, and stock quantity and an inventory tooth space are made to the minimum.
[0004]
[Means for Solving the Problem] In order to solve said technical problem the production-planning approach of this invention As opposed to the abouchement production line which produces these continuously in the state of the abouchement in order to ship periodically the 1st product of mass-produced-goods slack, and the 2nd product of low production article slack in the amount of predetermined numbers While directing allocation of the production quantity per unit time amount of said 1st and 2nd products based on product shipment statistics of the 1st past product at each time comparatively over a long period of time and the 2nd past product In the production-planning approach which held the quantity (N+alpha) which added allowances quantity (alpha) to the amount of maximum numbers of said 2nd product occupied in 1 time of said product shipment statistics of shipment quantity (N) as minimum safety-stock quantity of said 2nd product the stock quantity (n) of said 2nd product -- N<=n -- < (N+alpha) -- while reducing in the range, when said 2nd product is shipped from an inventory, it is characterized by shifting allocation of said production quantity to a 2nd product side corresponding to a part for the shipment quantity concerned.
[0005] Specifically, the production shift by the side of said 2nd product is performed by producing a part for the shipment quantity concerned within the interval period of shipment, when said 2nd product is shipped.
[0006] According to the above process, since commencement of work starts preferentially when a low

production article is shipped, an inventory tooth space and the number of an inventory can be decreased.

[0007]
[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained based on drawing 1 and drawing 2 (II).
[0008] drawing 1 -- mass-produced goods -- the 1st product A and low production -- elegance -- it is what showed the sum total production number of the 2nd product B, and the inventory number of Product B in simulation with the bar graph along with the time-axis (axis of abscissa), and bar graph (1) - (3) is the thing of the conventional production-planning approach, and bar graph (4) - (10) is the thing of the production-planning approach of this invention. In addition, spacing between each bar graph shall correspond with the shipment interval.
[0009] The basic production quantity of Product B is based on the past product shipment statistics quantity of the products A and B at each time comparatively over a long period of time, and is assigned to 5% of the sum total production number of Products A and B (they may be 5% = eight sets for convenience by the relation which makes a shipment lot unit eight sets) here. Therefore, Product B has attained 5% (eight sets) of number of production fundamentally in each bar graph.
[0010] Network Kakebe in each bar graph shows a shipped part of Product B, and the remaining shadow areas of the 2nd product B are in stock. In addition, the 1st product A is omitting the display of the number of an inventory fundamentally for whole-quantity shipment.
[0011] Since the basic production quantity of Product B is determined based on the product shipment statistics quantity of the past product A at each time and past Product B comparatively over a long period of time according to the production pattern (bar graph (1) - (3)) of drawing 1 Although it will see in the long run and can respond to the shipment demand of Product B the neither more nor less if Product B is produced eight set (a part for one pallet) every at intervals of a shipment interval, it cannot necessarily certainly respond to a shipment demand at each time. For example, if the situation which it ships 16 sets at a time occurs twice continuously, the remaining inventory of Product B will serve as zero, noting that 16-set (part for two pallets) possession of the inventory of Product B is carried out at the beginning and Product B is produced eight set (a part for one pallet) every.
[0012] For this reason, the view which makes quantity which added the number alpha of allowances based on an experience to the amount of maximum numbers of the product B occupied in 1 time of product shipment statistics of shipment quantity (N) standard stock quantity was taken conventionally. The bar graph (1) makes 32 sets which added the number alpha of allowances (= eight sets) to the maximum shipment quantity N (= 24 sets) the minimum safety-stock quantity.
[0013] However, it presses an inventory tooth space whether it is shipped each time and that the amount of four pallet also always holds the indefinite product B as an inventory. Then, this invention carried out the specified quantity cutback of the stock quantity of Product B from the minimum safety-stock quantity, and when Product B was shipped from an inventory, it was made only for the part corresponding to the shipment quantity concerned to shift allocation of production quantity to Product B side.
[0014] As specifically shown in bar graph [of drawing 1] (4) - (10), the four minimum safety-stock quantity is reduced from 32 conventional sets, when 16 exceeding eight sets which are the product shipment statistics quantity of each time of Product B as [it considers as 28 sets and] shown in a bar graph (4) and (5) are shipped two continuation, it corresponds to the eight excess sets once, and precedence commencement of work of the product B is carried out. Bar graph (5) It means that the production number of - (9) of Product B is increasing by four sets which carried out precedence commencement of work, respectively. If it changes while the shipment number of Product B has been eight sets of bases henceforth [a bar graph (6)], an inventory will be supplemented with four parts of Product B increased the production at a time, and they will reach predetermined stock quantity with a bar graph (9). Bar graph (5) In order to increase the production of Product B like - (9), the number of the 1st products A which carries out continuation commencement of work like drawing 2 (II) is reduced, and the commencement-of-work frequency of Product B is raised.

[0015]
[Effect of the Invention] Since it was made to shift allocation of production quantity to a low production article side corresponding to a part for the shipment quantity when the low production article concerned is shipped from an inventory while this invention reduced the stock quantity of a low production article by predetermined within the limits like the above-mentioned, precedence commencement of work of a low production article starts, and the inventory tooth space of a low production article can be decreased, certainly corresponding to a shipment demand.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The simulation-bar graph of the production number of a product, and the number of an inventory.
[Drawing 2] (I) is the schematic drawing of the conventional product production sequence, and (II) is the schematic drawing of the product production sequence of this invention.
[Description of Notations]
A The 1st product (mass-produced goods)
B The 2nd product (low production article)

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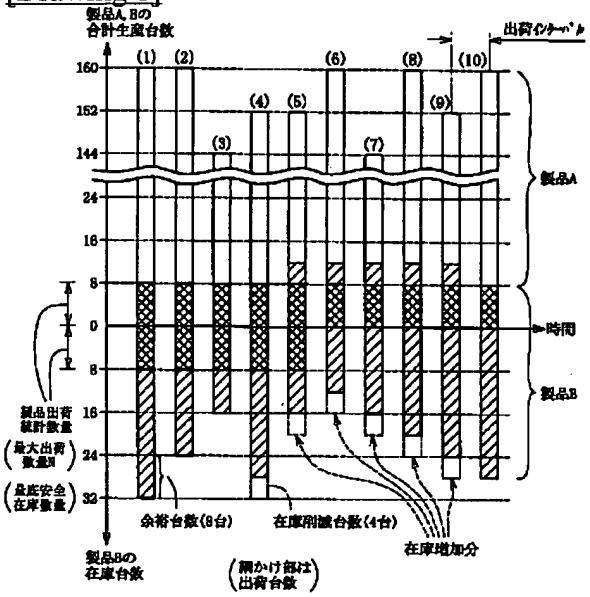
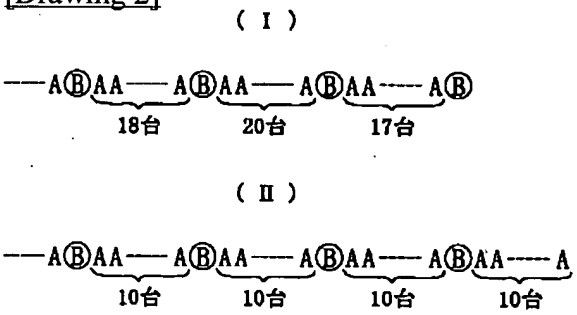
DRAWINGS

[Drawing 1]



[Drawing 2]



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